

# Science, Technology, Engineering, and Mathematics Teacher Preparation (STEMTP)

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## *Program Solicitation*

***NSF 01-136***

DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES  
DIVISION OF UNDERGRADUATE EDUCATION

**LETTER OF INTENT DUE DATE(S) (*optional*): August 31, 2001**

**FULL PROPOSAL DEADLINE(S): October 25, 2001**



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# SUMMARY OF PROGRAM REQUIREMENTS

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## GENERAL INFORMATION

**Program Title:** Science, Technology, Engineering, and Mathematics Teacher Preparation (STEMTP)

**Synopsis of Program:** The Science, Technology, Engineering and Mathematics Teacher Preparation (STEMTP) program responds to the critical need for qualified teachers of mathematics and science in elementary and secondary schools. The program supports efforts to develop exemplary science and mathematics preK-12 teacher education models that produce and retain effective teachers who have the skills, confidence, and commitment to enable all students to attain high standards of achievement in mathematics, science, engineering, and technology. Partnerships involving institutions of higher education and K-12 school districts will address local needs in terms of teacher shortages by developing and implementing effective strategies for recruiting prospective teachers with strong backgrounds in science and mathematics into teacher certification programs and retaining them in the teacher workforce. Projects will address such areas of local need as workforce diversity, urban or rural teacher shortages, and shortages within specific disciplines or grade levels. The STEMTP program complements the proposed NSF Math and Science Partnerships Initiative.

**Cognizant Program Officer(s):**

- Dr. Joan Prival, Undergraduate Education, telephone: 703-292-8670, e-mail: [jprival@nsf.gov](mailto:jprival@nsf.gov).

**Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):**

- 47.076 --- Education and Human Resources

## ELIGIBILITY INFORMATION

- **Organization Limit:** It is anticipated that proposers will primarily be universities, colleges, or nonprofit organizations. However, the [categories of proposers identified in the Grant Proposal Guide](#) are eligible to submit proposals under this program solicitation.
- **PI Eligibility Limit:** None
- **Limit on Number of Proposals:** None

## AWARD INFORMATION

- **Anticipated Type of Award:** Standard Grant
- **Estimated Number of Awards:** Approximately 12
- **Anticipated Funding Amount:** Approximately \$6.5 million, pending availability of funding

## PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

### *A. Proposal Preparation Instructions*

- **Letters of Intent:** Submission of Letters of Intent is optional. Please see the full program announcement/solicitation for further information.
- **Full Proposals:** Supplemental Preparation Guidelines
  - The program announcement/solicitation contains supplements to the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full program announcement/solicitation for further information.

### *B. Budgetary Information*

- **Cost Sharing Requirements:** Cost Sharing is not required.
- **Indirect Cost (F&A) Limitations:** Not Applicable.
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full program announcement/solicitation for further information.

### *C. Deadline/Target Dates*

- **Letters of Intent (*optional*):** August 31, 2001
- **Preliminary Proposals (*optional*):** None
- **Full Proposal Deadline Date(s):** October 25, 2001

### *D. FastLane Requirements*

- **FastLane Submission:** Required
- **FastLane Contact(s):**
  - FastLane Help Desk, telephone: 1-800-673-6188, e-mail: [fastlane@nsf.gov](mailto:fastlane@nsf.gov).

- Ms. Antoinette Allen, Undergraduate Education, telephone: 703-292-8670, e-mail: [duefl@nsf.gov](mailto:duefl@nsf.gov).

## **PROPOSAL REVIEW INFORMATION**

- **Merit Review Criteria:** National Science Board approved criteria. Additional merit review considerations apply. Please see the full program announcement/solicitation for further information.

## **AWARD ADMINISTRATION INFORMATION**

- **Award Conditions:** Standard NSF award conditions apply.
- **Reporting Requirements:** Standard NSF reporting requirements apply.

## **I. INTRODUCTION**

Based on projected enrollment increases and anticipated retirements, it is estimated that the nation's schools will need to hire 2.2 million teachers, including 240,000 middle and high school mathematics and science teachers, in the next decade (National Commission on Mathematics and Science Teaching for the 21st Century, 2000). The demand for teachers is most pronounced in urban and rural areas and within specific disciplines and grade levels of mathematics and science. A survey of urban school districts conducted by the Council of the Great City Schools and Recruiting New Teachers, Inc., in 1998-99, indicated that 95% of responding urban school districts had an immediate demand for high school science and mathematics teachers. Eighty percent reported a need for middle school science and mathematics teachers (Urban Teacher Collaborative, 2000). A high percentage of science and mathematics teachers lack even a minor in their teaching field, with 56% of public secondary students receiving instruction in the physical sciences from teachers without a major or minor in the physical sciences and 27% of students receiving mathematics instruction in classes taught by teachers lacking a minor in mathematics (Ingersoll, 1999). As many as 50% of new teachers in urban school districts leave the teaching profession within their first three years, further exacerbating shortages.

The STEMTP program supports the development and testing of model approaches to meeting defined local or regional needs for science and mathematics teachers at various grade levels. The ultimate goal is to provide effective strategies for accelerating the production of teachers who are well-qualified to teach mathematics and science in K-12 schools. STEMTP teacher preparation projects must demonstrate the involvement of science, mathematics, engineering and technology (SMET) faculty in all stages of the education of future teachers and provide evidence of a preservice curriculum that features a strong foundation in SMET content knowledge that is linked to effective pedagogical strategies. SMET majors and SMET professionals seeking a career change are specific targets of the program. An essential feature of the STEMTP program is the local partnership between higher education and school districts to ensure that teacher preparation is part of the continuum of teacher education that extends through the induction years and beyond. These partnerships involve the K-16 stakeholders in a collective and integrated effort to improve science, mathematics, and technology teacher education as envisioned in the National Research Council report, *Educating Teachers of Science, Mathematics, and Technology: New Practices for the New Millennium* (CSMTP, 2001). The STEMTP partnerships complement and nourish the proposed NSF Math and Science Partnerships Initiative.

## **II. PROGRAM DESCRIPTION**

The Science, Technology, Engineering, and Mathematics Teacher Preparation (STEMTP) program supports the development, dissemination, and institutionalization of exemplary science and mathematics preK-12 teacher education models that produce effective teachers who have the skills, confidence and commitment to enable all students to attain high standards of achievement in mathematics, science, engineering and technology. The goals of the program are:

- To increase significantly the number of preK-12 teachers who are certified and well-qualified to teach mathematics and science, and
- To improve the quality of preservice education, induction, and continued professional growth in mathematics and science for preK-12 teachers.

The program supports the development of teachers with a strong foundation in SMET content knowledge and the pedagogical skills necessary to teach science and mathematics effectively. Effective teachers are equipped with a repertoire of instructional and assessment strategies and the ability to select and refine strategies to optimize learner outcomes. They must be able to:

- engage their students in the use of technology in instruction and learning as well as in the practice of science and mathematics,
- understand research on learning and use research methodologies to augment and guide their own instructional practices, and
- address the varied learning styles, cultural and experiential backgrounds, and the unique needs of individual students.

Specifically, the STEMTP program provides support for the development of:

- Exemplary baccalaureate and five-year degree programs for preK-12 teachers of mathematics and science, and
- Model alternative certification programs to prepare individuals who possess SMET baccalaureate degrees for K-12 mathematics and science teaching.

These programs should be coupled with induction programs designed to facilitate the transition from preparation to practice.

The STEMTP program supports the design and testing of experimental models and strategies that lead to the production and retention of effective teachers of science and mathematics. Innovative approaches to accelerate the production of qualified teachers are encouraged, particularly teachers with strong SMET backgrounds. Projects must address critical local area needs and may focus on a specific discipline or teaching level (for example, middle school mathematics teachers). Areas of need might include, for example, diversifying the teaching workforce or producing individuals who are skilled in teaching science, mathematics, and technology to special populations (students with disabilities, students for whom English is a second language, etc.). Projects are expected to identify and quantify the area of need and provide a quantitative goal in terms of teacher production. Projects may also respond to staffing needs resulting from state or local education policy reforms such as implementation of student learning standards in science, mathematics, and technology, reduction in class size, increasing graduation requirements in mathematics and science, extension of school day or year, or

increased access to Advanced Placement classes. Institutions with high teacher production in low need areas may form alliances with school districts and institutions in high need areas to provide preservice students with student teaching opportunities in areas with hiring needs.

Projects may address elementary, middle school or high school levels, but individual projects need not encompass the full preK-12 range. The program seeks to expand the pool of potential teachers by targeting non-traditional sources of teachers including institutions not typically characterized as producers of teachers but with potential for developing and implementing replicable strategies for attracting people with strong SMET background into the field of teaching.

A defining feature of the program design is the development and implementation of partnerships among the major players and stakeholders including science, mathematics, engineering, technology, and education faculty at two- and four-year institutions of higher education, school districts, and other local partners such as informal science education institutions and local businesses. Partnerships with school districts must be designed to ensure coordination between preservice curriculum and ongoing inservice professional development, to enable appropriate student teaching and early field experiences, and to facilitate the transition from preservice to induction. Expanded cross-institutional learning communities comprised of preservice students, inservice teachers and higher education faculty will provide a coordinated focus on improving student learning in SMET. Projects are expected to inform and complement activities of the NSF Mathematics and Science Partnership Initiative, serving as test beds for strategies with potential for statewide, or broader, adoption. In this regard, the feasibility of scaling up or replicating specific approaches and strategies should be explicitly addressed.

In 2002, STEMTP offers two major areas of focus:

#### *Baccalaureate and Five-Year Programs*

Baccalaureate programs, including five-year programs, continue to provide the most common pathway to teaching. Projects focussing on baccalaureate and five-year programs should include strategies for ensuring preservice students acquire: deep content knowledge as well as the pedagogical content knowledge necessary for effective teaching in today's classrooms; knowledge of preK-12 mathematics, science, and technology standards; knowledge of a variety of student assessment techniques and the use of assessment to guide teaching and learning; awareness of equity issues and the needs of diverse learners; and knowledge of the research basis for effective teaching. Recruitment of prospective teachers from groups underrepresented in the teacher workforce (including males at the elementary level) and recruitment of SMET majors are key target areas of the STEMTP program. Projects are expected to include two-year college partners as appropriate, recognizing that many future teachers take most of their science and mathematics courses at two-year colleges. Courses must model national teaching standards and incorporate inquiry-based teaching and learning to ensure future teachers are prepared to teach in accordance with the SMET content and teaching standards.



## *Alternative Pathways to Teaching*

For individuals seeking to become teachers at various postbaccalaureate stages, a traditional course of study leading to certification may not be desirable or feasible. Projects may design and implement alternative credentialing programs for SMET professionals and recent graduates who were SMET majors to facilitate their entry into the teaching profession. Proposed alternative pathways to teaching should address the competencies necessary to teach preK-12 mathematics and science effectively and confidently. Programs should include intensive course work relevant to the teaching of science and mathematics and specifically geared to the adult learner, providing the content specialist (SMET major or SMET professional) with the pedagogical content knowledge, awareness of preK-12 standards and student assessment techniques, and knowledge of research basis necessary for effective teaching and learning. The program should provide multiple entry points and individualized development plans to accommodate individuals seeking to enter the teaching profession from a variety of stages in their educational and professional lives.

Innovative approaches and strategies may, for example, address the following:

- Redesigned standards-based courses and experiences for preservice students
- Professional development sites for conducting field-based preservice courses in science and mathematics, action research, and content-based professional development
- Early field experiences and service learning projects in K-12 classrooms
- Strengthening the mathematics and science requirements for elementary teachers
- Developing mathematics and science specialists for elementary classrooms
- Incorporating use of exemplary K-12 instructional materials into preservice education
- Model recruitment programs to increase the diversity and quality of prospective teachers and sustain their interest in teaching
- Pre-education programs at two- and four-year colleges
- Model mentoring programs to address recruitment and retention
- Model induction programs to facilitate the transition from preservice to inservice and increase retention of qualified teachers in the profession
- Integrating SMET research and preservice education
- Appropriate use of distance learning for preservice education
- Using distance partnerships to address local needs

All projects must include an evaluation design that provides formative feedback and summative measures of outcomes in terms of the effectiveness of the selected strategies in improving the preparation and production of teachers. The evaluation plan should include a timeline for tracking progress toward attaining objectives and goals. Measurable and reasonable benchmarks should be defined for project impact data. Outcomes pertaining to teachers produced by the project should be measured in terms of teacher practices, demonstration of content and pedagogical knowledge, and their effectiveness as teachers as reflected in the mathematics and science performance of their students. Evaluation may include a research component conducted through partnerships between cognitive scientists, teacher educators, and practicing teachers. In addition to the project-specific evaluation, all projects will be expected to cooperate with an NSF third party evaluation of program impact that will require data collection.

## **References**

Committee on Science and Mathematics Teacher Preparation (CSMTP) (2001). *Educating Teachers of Science, Mathematics and Technology: New Practices for the New Millennium*. Washington, DC: National Academy Press.

Ingersoll, R.M. (1999). The Problem of Underqualified Teachers in American Secondary Schools. *Educational Researcher*, 28(2): 26-37.

National Commission on Mathematics and Science Teaching for the 21st Century (2000). *Before It's Too Late*. Jessup, MD: Education Publications Center.

Urban Teacher Collaborative (2000). *The Urban Teacher Challenge: Teacher Demand in the Great City Schools*. Washington, D.C.: Council of the Great City Schools.

## **III. ELIGIBILITY INFORMATION**

It is anticipated that proposers will primarily be universities, colleges, or nonprofit organizations. However, the [categories of proposers identified in the Grant Proposal Guide](#) are eligible to submit proposals under this program solicitation.

## **IV. AWARD INFORMATION**

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

Approximately \$6.5 million is anticipated to be available for this program in FY 2002. Depending on the quality of submissions and the availability of funds, NSF expects to fund approximately 12 awards, with award sizes ranging from \$300,000 to \$1 million. The budget size must be justified in terms of the overall project objectives, including the proposed program improvements and the number of students impacted. Duration of awards will be three to four years.

Anticipated date of awards: March 2002. Although there is no limit on the number of proposals that an institution may submit, no more than one award will be made to a single institution in this fiscal year's competition.

## **V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS**

### **A. Proposal Preparation Instructions**

**Letters of Intent:** A letter of intent is optional but encouraged before submitting a full proposal. The letter of intent is not a preliminary proposal. It is intended to enhance the efficiency of the review process. It should be a brief statement that indicates an intent to submit a proposal to the STEMTP program. The letter of intent should also (1) include a list of the partnering institutions that will collaborate in the proposed project and (2) indicate whether the proposal will focus on "Baccalaureate and Five-Year Programs," "Alternative Pathways to Teaching," or both (see Section II ["Program Description"] for a description of these two major areas of focus). Letters of intent should be sent by electronic mail to STEMTP-prog@nsf.gov by August 31, 2001.

### **Full Proposal:**

Proposals submitted in response to this program announcement/solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF *Grant Proposal Guide* (GPG). The complete text of the GPG is available electronically on the NSF Web Site at: <http://www.nsf.gov/cgi-bin/getpub?gpg>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

In addition to describing the proposed activities, the proposal Project Description should include the following:

- The identification and documentation of the local or regional need addressed by the proposal
- The current level of teacher production and anticipated increase resulting from the proposed activities.
- The specific involvement and responsibilities of the partners, including evidence of involvement and defined responsibilities of SMET faculty, education faculty, and preK-12 teachers and administrators
- A plan and timeline for evaluation, including the identification of measurable benchmarks and outcomes.

## **Additional Requirements**

The PI and Co-PI leadership must include at least one faculty member or other higher education representative from SMET disciplines, education faculty member or other representative from School/College of Education, and representative(s) of the school district(s) served. Letters of support are required from the Dean of Arts & Sciences and Dean of Education (or comparable administrators), and School District Superintendent(s). Upload these letters as files into Supplementary Docs in FastLane.

A Project Data Form (NSF Form 1295) must be submitted (via FastLane) as part of all proposals. The information on this form is used to direct proposals to appropriate reviewers and to determine the characteristics of projects supported by the Division of Undergraduate Education. In FastLane, this form will show up in the list of forms for your proposal only after you have (1) selected "STEMTP" as the NSF organizational units on the Cover Sheet and (2) saved the Cover Sheet.

A budget justification of up to three pages must accompany the budget forms and provide details about budget line items.

Proposers are reminded to identify the program solicitation number (NSF 01-136) in the program announcement/solicitation block on the proposal Cover Sheet (NSF Form 1207). Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

## **B. Budgetary Information**

Cost sharing is not required in proposals submitted under this Program Solicitation.

***Other Budgetary Limitations:*** Award amounts up to \$1 million. Duration of awards is 3 to 4 years.

## **C. Deadline/Target Dates**

Proposals must be submitted by the following date(s):

**Letters of Intent (*optional*):** August 31, 2001

**Full Proposals *by 5:00 PM local time*:** October 25, 2001

## **D. FastLane Requirements**

Proposers are required to prepare and submit all proposals for this Program Solicitation through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at: <http://www.fastlane.nsf.gov/a1/newstan.htm>. For FastLane user support, call 1-800-673-6188 or e-mail [fastlane@nsf.gov](mailto:fastlane@nsf.gov).

*Submission of Signed Cover Sheets.* The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see [Chapter II, Section C](#) of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required certifications within five working days following the electronic submission of the proposal. Further instructions regarding this process are available on the FastLane website at: <http://www.fastlane.nsf.gov>.

## **VI. PROPOSAL REVIEW INFORMATION**

### **A. NSF Proposal Review Process**

Reviews of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program Officers charged with the oversight of the review process. NSF invites the proposer to suggest at the time of submission, the names of appropriate or inappropriate reviewers. Care is taken to ensure that reviewers have no conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority-serving institutions, or adjacent disciplines to that principally addressed in the proposal.

Proposals will be reviewed against the following general review criteria established by the National Science Board. Following each criterion are potential considerations that the reviewer may employ in the evaluation. These are suggestions and not all will apply to any given proposal. Each reviewer will be asked to address only those that are relevant to the proposal and for which he/she is qualified to make judgements.

#### **What is the intellectual merit of the proposed activity?**

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

#### **What are the broader impacts of the proposed activity?**

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Principal Investigators should address the following elements in their proposal to provide reviewers with the information necessary to respond fully to both of the above-described NSF merit review criteria. NSF staff will give these elements careful consideration in making funding decisions.

### ***Integration of Research and Education***

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

### ***Integrating Diversity into NSF Programs, Projects, and Activities***

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

### **Additional Review Criteria**

In considering the above criteria, reviewers will be asked to comment on the following:

- Evidence of partnership and collaboration between the institution(s) of higher education and local school district(s) and between SMET and education faculty
- Evidence that the proposed activities address documented local teacher workforce needs
- Evidence that the project is informed by current initiatives and findings in preK-12 teacher preparation
- Evidence that the proposed activities are consistent with preK-12 mathematics, science, technology and engineering standards established by national and state organizations and local school districts
- Feasibility and completeness of formative and summative evaluation plans that are designed to measure the effectiveness of proposed activities in reaching program goals

A summary rating and accompanying narrative will be completed and signed by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the Principal Investigator/Project Director by the Program Director. In addition, the proposer will receive an explanation of the decision to award or decline funding.

## **B. Review Protocol and Associated Customer Service Standard**

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this announcement/solicitation will be reviewed by Mail and/or panel review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 70 percent of proposals. The time interval begins on the date of receipt. The interval ends when the Division Director accepts the Program Officer's recommendation.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at its own risk.

## **VII. AWARD ADMINISTRATION INFORMATION**

### **A. Notification of the Award**

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See section VI.A. for additional information on the review process.)

### **B. Award Conditions**

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (NSF-GC-1)\* or Federal Demonstration Partnership (FDP) Terms and Conditions \* and (5) any announcement or other NSF issuance that may be incorporated by reference in the

award letter. Cooperative agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1). Electronic mail notification is the preferred way to transmit NSF awards to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

\*These documents may be accessed electronically on NSF's Web site at [http://www.nsf.gov/home/grants/grants\\_gac.htm](http://www.nsf.gov/home/grants/grants_gac.htm). Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF Web site at <http://www.nsf.gov/cgi-bin/getpub?gpm>. The GPM is also for sale through the Superintendent of Documents, Government Printing Office (GPO), Washington, DC 20402. The telephone number at GPO for subscription information is (202) 512-1800. The GPM may be ordered through the GPO Web site at <http://www.gpo.gov>.

### **C. Reporting Requirements**

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

NSF has implemented an electronic project reporting system, available through FastLane. This system permits electronic submission and updating of project reports, including information on project participants (individual and organizational), activities and findings, publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

## **VIII. CONTACTS FOR ADDITIONAL INFORMATION**

General inquiries regarding Science, Technology, Engineering, and Mathematics Teacher Preparation should be made to:

- Dr. Joan Prival, Undergraduate Education, telephone: 703-292-8670, e-mail: [jprival@nsf.gov](mailto:jprival@nsf.gov).



For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188, e-mail: [fastlane@nsf.gov](mailto:fastlane@nsf.gov).
- Ms. Antoinette Allen, Undergraduate Education, telephone: 703-292-8670, e-mail: [duefl@nsf.gov](mailto:duefl@nsf.gov).

## IX. OTHER PROGRAMS OF INTEREST

The NSF *Guide to Programs* is a compilation of funding for research and education in science, mathematics, and engineering. The NSF *Guide to Programs* is available electronically at <http://www.nsf.gov/cgi-bin/getpub?gp>. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter.

Many NSF programs offer announcements or solicitations concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices. Any changes in NSF's fiscal year programs occurring after press time for the *Guide to Programs* will be announced in the NSF [E-Bulletin](#), which is updated daily on the NSF web site at <http://www.nsf.gov/home/ebulletin>, and in individual program announcements/solicitations. Subscribers can also sign up for NSF's [Custom News Service](#) (<http://www.nsf.gov/home/cns/start.htm>) to be notified of new funding opportunities that become available.

Information about the Math and Science Partnerships Initiative can be found at <http://www.nsf.gov/od/lpa/news/media/01/fs02initiative.htm>

## **ABOUT THE NATIONAL SCIENCE FOUNDATION**

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Awardees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

NSF welcomes proposals from all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities and persons with disabilities to compete fully in its programs. In accordance with Federal statutes, regulations and NSF policies, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NSF (unless otherwise specified in the eligibility requirements for a particular program).

Facilitation Awards for Scientists and Engineers with Disabilities (FASSED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the program announcement/solicitation for further information.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090, FIRS at 1-800-877-8339.

The National Science Foundation is committed to making all of the information we publish easy to understand. If you have a suggestion about how to improve the clarity of this document or other NSF-published materials, please contact us at [plainlanguage@nsf.gov](mailto:plainlanguage@nsf.gov).

## PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to applicant institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Information Dissemination Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230, or to Office of Information and Regulatory Affairs of OMB, Attention: Desk Officer for National Science Foundation (3145-0058), 725 17th Street, N.W. Room 10235, Washington, D.C. 20503.

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